Quality Control

Work Ord	ler ID 10:			*109	3110*						Page 1
Item ID: Revision ID: Item Name:	D3873-1 Bushing			Accept	*N900	<u>040</u>	100	)*	Setup Sta	ı V	S1* S2*
Start Date: Required Date Reference:	11/11/13 e: 11/25/13	<b>Start Qty:</b> 120.00 <b>Req'd Qty:</b> 120.00	*120° *120°		Cust Item   Customer:	ID:					
Approvals:	Process Pla	in: MLJ	Date: <u>/3~//-//</u> Date:	Tooling: SPC (Y/N):		ate:			Run Sta Sto	art *N op *N	R1* R2*
Sequence ID/ Work Center	ID	Operation Description		Set Up/ Run Hours	Tool ID	Tool#	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Rev	ision Nbr									
D3873	С										* :
*100 *100*				0.00				120	Ø		1413-11-2
Hardinge Hardinge CNC La	the Small	FOLIO REV: DWG REV:_		0.00 /G D3873 ,							_ 850_138
110		QC2- Inspect parts off ma	chine FAI/FAIB	0.00				100			01 2 11 2
*11 <b>0</b> *		Memo		0.00				120			SA13-11-6

DQA:			Date:												TOAR
						<b>WORK ORDER NON-</b>	-CC	ONFO	RMANCE / UI	PDATE					AEROSPACE
QA Closed:			Date:							١	Wo	ork Order up	date only		
Work Orde	ır.					DISPOSITION				AGAINST (	DEF	PARTMENT	/PROCESS		
VOIR OIGE	'' -					Rework	1		Skid-tube	Crosstube			Water Jet		Engineering
Part N	lo.					Scrap			Machining	Small Fab	$\dashv$	Pro	d. Eng. Coor.		Quality
	-				_	Use-as-is			noforming	Finishing	ᅦ		re/Packaging	_	Other
NCR N	lo.					Suspected Unapproved	1		Large Fab	Composite	T	•	Supplier		
	_						<b>'</b>			· •					
Root	$\Box$				Desci	ription of work order update	ı	nitial	Act	ion		Sign &			
Cause		Date	Step	Qty		or non-conformance	Ch	ief Eng	Descr	iption		Date	Verification	n	QC Inspector
Design															!
Doc/Data															
Equip/Tooling							ļ								
Handling/Pre	_						Ì					!			
Material	_		i												
Operator	_						ļ								
Offset/Setup	_														
Process	_														
Supplier															
Training	_														
Transport															
Unapproved			<u> </u>				<u> </u>								
							FA	ULT CA	TEGORY						
Landii						General		1 /		г	$\neg$	ام ه		_	l
		Bending				Bend Boat (Bouts	$\vdash$	•	Program		$\neg$	Outside Dim		L	Pressure/Forced
	-	Centre No	ot Concer	itric	$\vdash$	BOM/Route	$\vdash$	Grain		}	-	Over/Under			Set-up
	_	Cracks Crimp/Kir	ak/Dinnla	MAInus	$\vdash$	Broken/Damage/Defect	$\vdash$	Hardwa		analified	-	Part Incorred Part Lost/Mi			Temperature/Cure Weld
	_	Cuffs	ıv vibbie	, wave	<u> </u>	Burrs Contamination	$\vdash$	1 .	ion Incomplete/Ur	· · · · · · · · · · · · · · · · · · ·	_	Part Lost/Mil	issiliR	_	Wrong Stock Pulled
	_	Crushing			<u> </u>	Countersink	$\vdash$	4	tions Incomplete/l gned/off center	Jiicieai	_	Positioned V	Mrong		I wrong stock rulled
	-	Heat Trea	n <b>t</b>		<u> </u>	Cut Too Short	-	Mislabe		}	$\overline{}$	Power Loss/	_	Γ	Other
	_	Inspectio		Tube	-	Drawing	-	Misrea		Ę		J. 0WCI 1033/	Juige	L	Todici
	_	Marks/Ch	-	· ubc		Drill Holes	-	Off-set			•				
	_	Turning S			-	Finish		4	Calibration						
	<b>-</b>	Wave/Tw				Fit/Function	$\vdash$	4	Sequence						

QC

Quality Control

## \*109110\*

Page 2

Work Order ID 109110 November-11-13 1:53:09 PM Item ID: D3873-1 Accept \*N900040100\* Setup Start Revision ID: Stop Item Name: Bushing \*120\* **Start Otv:** 120.00 Start Date: 11/11/13 **Cust Item ID:** Required Date: 11/25/13 Reg'd Otv: 120.00 \*120\* **Customer:** Reference: Run Process Plan: \_\_\_\_\_ Date: \_\_\_\_ Tooling: Approvals: Date: Stop QC: Date: SPC (Y/N): Date: Sequence ID/ Operation Set Up/ Tool ID Tool # Plan Reject Reject Accept Insp. Work Center ID Number Stamp **Description** Qty Code Qty **Run Hours** 120 QC8- Inspect parts - second check 0.00 3-11-28 120 p \*120\* Memo Quality Control Identify as per dwg & Stock Location \*130\* 20 X 0.00 Packaging Memo DAS Packaging 26 9-89 QC21- Final Inspection - Work Order Release 0.00 1 Rm 13/11/29. WK 29 \*140\*

0.00

Memo

1	•

DQA:		Date:										
					WORK ORDER NON-	-CC	ONFO	RMANCE / UPDATE			_	AEROSPACE
QA Closed:		Date:							W	ork Order up	date only	
					DISPOSITION			AGAINST	Γ DE	PARTMENT	PROCESS	
Work Order	:				_	.				1		
					Rework			Skid-tube Crosstube	_	1	Water Jet	Engineering
Part No	D				Scrap			Machining Small Fab	_	4	d. Eng. Coor.	Quality
					Use-as-is		Therr	noforming Finishing		Rec/Stor	re/Packaging	Other
NCR No	). <u> </u>				Suspected Unapproved			Large Fab Composite	<u>'</u>	j	Supplier	_
Root		1		Desc	ription of work order update	Н	nitial	Action		Sign &		
Cause	Date	Step	Qty	Desc	or non-conformance	ŧ .	ief Eng			Date	Verification	QC Inspector
Design	Dutt	Эсер	αι,		or non comormance		iici Eiig	Description			Vermoution	Qu'inspecto.
Doc/Data	1				!	Ì						
Equip/Tooling	7											
Handling/Pre						l		:				
Material												
Operator						Į .						
Offset/Setup												
Process		İ	1		•							
Supplier		E										
Training												
Transport												
Unapproved										<u> </u>		
						FA	ULT CA	TEGORY				
Landing	<del>-</del>			_	General		٠.		_	7	_	<b>_</b>
<u> </u>	Bendin	_		<u> </u>	Bend .	<u>_</u>	•	Program	<u> </u>	Outside Dim	<u> </u>	Pressure/Forced
-		Not Conce	ntric	<u> </u>	BOM/Route	$\vdash$	Grain		<u> </u>	Over/Under	ļ	Set-up
	Cracks			-	Broken/Damage/Defect	<u> </u>	Hardwa		-	Part Incorred	<b> </b>	Temperature/Cure
-		Kink/Ripple	e/Wave	<u> </u>	Burrs		-1	ion Incomplete/Unqualified	$\vdash$	Part Lost/Mi	ssing	
-	Cuffs				Contamination	-	4	tions Incomplete/Unclear	$\vdash$	Part Moved	L	Wrong Stock Pulled
\ \	Crushi				Countersink	-	-1	gned/off center	$\vdash$	Positioned V	_	70460
-	Heat T		. T L	-	Cut Too Short	$\vdash$	Mislab		L	Power Loss/	surge	Other
-	<b>⊣</b>	tion Strip in	ıube	-	Drawing Drill Holes	$\vdash$	Misrea Off-set			-		
\ \		Chatter		$\vdash$	Finish	$\vdash$	4	Calibration			<u> </u>	<u> </u>
	_	g Sequence Twist in Tul		-	Fit/Function	$\vdash$	4	Sequence				
1	(vvave/	I WISCHI TU	be		Fit/Fullction		[Out of	sequence				

- Picklist Print

November-11-13 1:53:12 PM

Parent Item Name: Bushing

Page 1

Work Order ID: 109110

\*109110\*

Parent Item:

D3873-1

\*D3873-1\*

**Start Date:** 11/11/13

Required Date: 11/25/13

**Start Qty: 120.00** 

Required Qty: 120.00

Comments:

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M303R0.625		Purchased	No			100	f	72.0917	0.06	8		Λ.	
*M303R0	625*								**	7 277	•	$\mathcal{U}_{i}$	3-11-27

303 Round Bar 0.625"

<b>Location</b>	Loc Qty	Loc Code	
MAT028	72.09171		
118400	4		
119009	0.00001		<del></del>
119766	29.179		<u> 7.333'</u>
124081	38.9127		

															~ ·
DQA:			Date:											•	
QA Closed:			Date:			WORK ORDER NON-	-CC	ONFO	RMANCE / U		No	ork Order up	odate only		AEROSPACE
March Ords						DISPOSITION				AGAINST E	ÞΕ	PARTMENT	/PROCESS		
Work Orde Part N NCR N	- . No.					Rework Scrap Use-as-is Suspected Unapproved		Thern	Skid-tube  Machining  noforming  Large Fab	Crosstube Small Fab Finishing Composite		ľ	Water Jet d. Eng. Coor. re/Packaging Supplier		Engineering Quality Other
Root					Desc	ription of work order update	ı	nitial	Act	tion		Sign &			
Cause		Date	Step	Qty		or non-conformance	Ch	ief Eng	Desci	ription		Date	Verificatio	n	QC Inspector
Design Doc/Data Equip/Tooling Handling/Pre Material Operator Offset/Setup Process Supplier Training Transport Unapproved															
landi	na (					General	FA	ULI CA	TEGORY						
Landi		Bending Centre No Cracks Crimp/Kir Cuffs Crushing				Bend BOM/Route Broken/Damage/Defect Burrs Contamination Countersink		Grain Hardwa Inspect Instruct	rogram  re  ion Incomplete/U  ions Incomplete/I  gned/off center	· -		Outside Dim Over/Under Part Incorre Part Lost/M Part Moved Positioned N	tolerance ci issing		Pressure/Forced Set-up Temperature/Cure Weld Wrong Stock Pulled
		Heat Trea	it			Cut Too Short		Mislabe				Power Loss/	/Surge		Other

Misread

Off-set

Out of Calibration

Out of Sequence

H:/FORMS/Quality Assurance\approved QA/NCRWO RevH

Marks/Chatter

Turning Sequence

Wave/Twist in Tube

Inspection Strip in Tube

Drawing

Finish

Drill Holes

Fit/Function

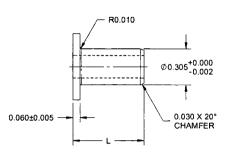
DART AEROSPACE LTD	Work Order:	109/10
Description: Bushing	Part Number:	D3873-1
Inspection Dwg: D3873 Rev: C	· · · · · · · · · · · · · · · · · · ·	Page 1 of 1

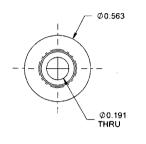
## FIRST ARTICLE INSPECTION CHECKLIST

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
Ø0.305	+0.000/-0.002	<u>.</u> 304			5602	Mic
Ø0.191	+0.005/-0.001	. 194	/		SL08	Veen
Ø0.563	+/-0.010	.562	/		1	
0.060	+/-0.005	.059	/			
0.600	+/-0.010	. 600	V			
R0.010	+/-0.010	.015	//		1	
0.030 x 20°	+/-0.010 x 0.5°	.015 .030Y20°				
			,	· · · · · · · · · · · · · · · · · · ·		
						, . ,

Measured by:	$\mathcal{M}$	Audited by:	Preliminary Approval:
Date:	13-11-27	Date: 13-11-25	Date:

Rev	Date	Change	Revised by	Approved
Α	09.05.20	New Issue	KJ	
В	10.11.05	Dimensions updated per Dwg Rev B	KJ \O	Ab
С	12.02.01	Dwg Rev updated	KJ OX	<i>I</i> //
	12.02.0	,g		141





## D3873-X BUSHING

109 110 MG 13-11-11



DART P/N	L L	WEIGHT (lbs)
D3873-1	0.600	0.010
D3873-3	0.120	0.005
D3873-5	0.270	0.007



C ADD D3873-3/-5/-7 (ZN B6-1 & B5-2) 11.06.14 B Ø0.563 WAS Ø0.63 (C3-1, TO FIT TRIBAG GIRT) CP 10.07.22 Α NEW ISSUE MB 09.01.07 REV. DESCRIPTION DATE BY

DESIGN DART AEROSPACE USA, INC. PORT HADLOCK, WA DRAWN SC DRAWING NO. CHECKED REV. C D3873 MFG. APPR. SHEET 1 OF 2 TITLE APPROVED SCALE **BUSHING** DE APPR. NTS DATE 11.06.14 COPYRIGHT © 2009 BY DART AEROSPACE USA, INC.
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NOTES:
1) MATERIAL: AISI 303 STAINLESS STEEL ROUND BAR PER ASTM A582
REF DART SPEC M303R
2) FINISH: NONE
3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
4) UNITS: INCHES UNLESS OTHERWISE NOTED
5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
6) IDENTIFICATION: NONE
7) WEIGHT: PER TABLE

3

